

[54] DIFFERENTIAL HYDROPHONE ASSEMBLY
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[57] ABSTRACT

A differential hydrophone assembly includes a ceramic hydrophone for disposition in a water environment and comprising first and second hemispherical piezoelectric sections, a polarized ceramic member disposed in each section, a positive electrode and a negative electrode disposed in each section, an output conductor extending from each of the electrodes, such that a first pair of the conductors extend from a first of the ceramic members, and a second pair of the conductors extend from a second of the ceramic members, the first pair of conductors being discrete from the second pair of conductors. The assembly further includes a differential summing amplifier for disposition in a second environment removed from the water environment and electrically connected to the first and second pairs of conductors. The assembly is adapted to sum acoustic signals produced by changes in pressure in the water environment and transform the acoustic signals into two electrical signals of opposite polarities from which common mode noises are nulled to provide a differential hydrophone output.

3 Claims, 4 Drawing Sheets

